

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

No: 411002/5/2024-NFR

Date – 11.09.2025

NOTICE

Ref: - Advertisement No. 411002/5/2024 - NFR dated 09.12.2024 for recruitment to the post of Deputy Superintending Engineer (Electrical) (PL-12).

The applicants for the post of Deputy Superintending Engineer (Electrical) (PL-12) are hereby informed about the schedule of recruitment test(s) as under:-

Name of the Test	Test Date	Reporting Time	Test Time	Venue
Practical Skill Test (100 marks)	09.10.2025 (Thursday)	09.00 AM	10.00 AM -12.00 Noon	IIT (ISM) Dhanbad
Document verification and Presentation & Interview	10.10.2025 (Friday)	09.00 AM	Document verification: 09:30 AM to 10:00 AM Interview: 10:00 AM onwards	Conference Hall, Admin Block, IIT (ISM) Dhanbad

The recruitment test for Deputy Superintending Engineer (Electrical) will be conducted in two stages i.e. Step-I (Practical Skill Test) and Step-II (Presentation & Interview).

Selection of the candidate for the post will be on the basis of performance in the Presentation & Interview, subject to completion of Document Verification successfully.

The syllabus for recruitment test for Deputy Superintending Engineer (Electrical) is at **Annexure -I**.

Minimum cut off marks:-

No. of Vacancies	Presentation & Interview (based on performance in Step-I)
01 (UR)	Maximum 08 times the number of vacancy Minimum 40% marks in Practical Skill Test

In case, two or more candidates secure equal marks in Practical Skill Test at cut-off stage, all such candidates will qualify for next stage i.e. Presentation and Interview.

Document Verification:-

The candidates shortlisted for document verification, on the basis of performance in Practical Skill Test, will have to produce the following documents in original (as mentioned in the advertisement) in support of their eligibility:

- (i) Matriculation certificate in support of Date of Birth
- (ii) Mark sheet of educational and technical qualifications
- (iii) Certificate of educational and technical qualifications
- (iv) Experience certificate
- (v) No Objection Certificate from the present employer (if they are employed in Central Govt. / State Govt. / Union Territory Administration/ Central or State Autonomous Bodies/ Central or State PSUs) etc.

In case, failing to produce the above documents, their candidature will be cancelled and they will not be selected against the vacancy of the post, even on passing in Practical Skill Test.

Admit cards for the tests will be available for download on or after 06.10.2025. The candidates may visit https://nfr.iitism.ac.in/index.php/recruitment/User_login and download their admit card by login into portal using e-mail Id, Date of Birth and Mobile number (already registered).

Registrar

**Syllabus for recruitment test for the post Deputy Superintending Engineer
(Electrical) (PL-12)**

Step-I (Practical Skill Test) (100 Marks):

Part 1: Fundamentals of Electrical Engineering

- Principles of Electricity:
 - Current, Voltage, Power, Energy, and their units
 - Resistance, Inductance, Capacitance – concepts and influencing factors
 - AC and DC circuit fundamentals
 - Power factor and its improvement methods
 - Analysis of load profile (load factor, demand factor, etc.)
 - Overhead transmission line and Underground cables
 - Types of Generators and their applications
 - Indian Electricity Rules, Standards, and Codes (latest amendments)
-

Part 2: Planning of Electrical Installations

- Substation Planning:
 - Location, space requirements, and coordination with local supply authorities
 - Provision for future load growth and expansion
 - Electrical Services:
 - Location of switch rooms and distribution points
 - Planning for efficient cabling and distribution networks
 - Space management for electrical services
-

Part 3: Electrical Systems Design & Distribution

3.1 System of Supply

- Peak and non-peak load planning
- Stand-by and emergency power supply (DG sets, UPS)
- Essential power loads (water pumps, lifts, fire protection, lighting, HVAC, etc.)

3.2 Power Distribution

- Single-line diagrams and schematic representation of power flow
- Distribution system design: Rising mains, DBs, circuits, and load balancing
- Circuit breakers, fuses, and protective devices

3.3 Panels, Rising Mains & Bus Systems

- LT Panels and Distribution Boards: specifications, IP ratings, short-circuit capacity
- Bus Trunking and Overhead Bus-bar systems: construction, installation, safety requirements
- Earthing requirements for panels, transformers, and generators

- Color coding of busbars and wiring

3.4 Earthing Systems

- Types of earthing electrodes, materials, and installations
- Soil treatment and maintenance of earthing systems
- Residual Current Devices (RCDs) and safety provisions

3.5 Lightning Protection

- Design and installation of lightning protection systems
- Air terminations, down conductors, and earth terminations
- Standards for conductor materials and dimensions

Part 4: Safety, Standards & Special Issues

- Electrical Safety during Construction and Operation
- Hazards in extreme conditions (earthquakes, floods, cyclones)
- Indian Electricity Act (2003), Electricity Rules (latest amendments), and BIS codes
- Fire hazards in electrical installations: causes, prevention, and protection systems
- Energy conservation and efficiency measures (ECBC, BEE standards, green building codes)

Part 5: Operation & Maintenance

5.1 Maintenance Practices

- Preventive, Predictive, and Corrective Maintenance
- Maintenance of electrical equipment and installations
- Tools, manpower, and material management for maintenance works
- Safety protocols during maintenance

5.2 Testing & Commissioning

- Insulation resistance, polarity, earth continuity, and earth resistance tests
- Pre-commissioning checks and certifications
- Use of modern test instruments (digital meters, relay testers, thermal scanners)

Step-II (Presentation and Interview):

The Candidates qualified for presentation & interview will be required to give a power point presentation on any topic related to their area of experience relevant to the post for not more than 05 slides for a maximum duration of 10 minutes.
